



# **FACADESXi**

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**WATERSHIELD MASONRY VENEER  
ASSEMBLY**

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# FACADESXi WATERSHIELD MASONRY VENEER ASSEMBLY

CSI SECTION 04 43 13 – Adhered Stone Masonry Veneer

CSI SECTION 07 27 26 – Fluid-Applied Membrane Air Barriers

CSI SECTION 07 25 00 – Weather Barriers

This specification is to assist in correctly specifying the FACADESXi WaterShield Masonry Veneer Assembly, products, and installation and should be used in conjunction with Assembly Details. The assembly includes WaterShield water resistive air barrier, drainage mat, portland cement plaster mortar bed, masonry veneer mortar, and adhered veneer.

The specifier MUST edit these specifications to fit the needs of each specific project and the design is the responsibility of the specifier to determine if a product is applicable.

FACADESXi Wall systems provides these specifications, Typical Assembly details, and product data sheets for use in the design of the project.

FACADESXi is not liable for any errors or omissions in design details, structure capability, attachment details, or shop drawings. See Full Disclaimer at end of the document.

Although not a part of the Assembly, water-resistant barriers, flashings, and sealants are elements of all exterior wall assemblies and must be designed, integrated, and installed, in conjunction with the wall cladding to create an air and water-resistant assembly. Masonry Veneer assemblies must be designed to allow water to drain to the exterior.

Construction Types: I-V, Fire Rated, and Non-combustible, Commercial and Residential Non-combustible and Fire Rated construction: ensure that the system chosen has been tested and is compliant with the necessary tests for these assemblies.

## LIMITATIONS

- Adhered Veneers are not to exceed 36 inches in any face dimension, 5 square feet in total face areas, .25 inches thick or 15 pounds per square foot.
- Ambient/surface temperature must remain above 40°F (4°C) during and for 24-hours after the set occurs.
- Efflorescence is a natural occurrence when using cement-based products subject to the exterior or wet environments and is not a defect of the product.
- For use on vertical above-grade walls only.

Contact FACADESXi technical services to assist in appropriate product selection.

*Notes to Specifier are in White Italics and should be deleted before publishing.*

*[Select or Delete] Assembly Options. Choose one and delete the remaining options. Delete the brackets and un-bold the selected option(s).*

*<Text> Include the appropriate information.*

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- A. Materials and installation of an exterior adhered masonry veneer assembly including, Xi-WaterShield and accessory products, drainage mat, code-compliant lath, mortar bed, masonry veneer mortar adhesive, and adhered veneer.

### 1.2 RELATED SECTIONS

- A. Section 06 11 00 Wood Framing
- B. Section 06 16 00 Sheathing
- C. Section 07 27 00 Air barriers
- D. Section 07 60 00 Flashing and Sheet Metal
- E. Section 07 90 00 Joint Protection
- F. Section 08 40 00 Entrances, storefronts, curtain walls
- G. Section 08 50 00 Windows
- H. Section 09 21 16 Gypsum Board Assemblies

### 1.3 REFERENCES

#### A. ASTM

- 1. C847 Standard Specification for Metal Lath
- 2. C897 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plaster
- 3. C926 Standard Specification for Application of Portland Cement-Based Plaster
- 4. C1063 Standard Specification for Lathing and Furring Accessories, and Fasteners, for Interior and Exterior Portland Cement-Based Plaster
- 5. C1177 Specification for Glass Mat Gypsum for Use as Sheathing
- 6. C1861 Standard Specification for Lathing and Furring Accessories, and Fasteners, for Interior and Exterior Portland Cement-Based Plaster
- 7. D1784 Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compound
- 8. E84 Test Method for Surface Burning Characteristics of Building Material
- 9. E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- 10. E330 Test Method for Structural Performance of Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference

#### B. APA

- 1. Voluntary Product Standard: PS 1, Structural Plywood
- 2. Voluntary Product Standard: PS 2, Performance Standard for Wood-Based Wood structural panels.

### 1.4 SUBMITTALS

- A. Submit under the provisions of Section [01 33 00]
- B. Product data on assembly materials, including specifications, assembly details, installation, and warranty information.
- C. Shop drawings to be provided by the subcontractor.
- D. Samples: two 6 inches by 6-inch finish coat sample per designers' request

### 1.5 DESIGN CRITERIA

#### A. Structural

- 1. Maximum deflection not to exceed  $L/360$  of the span under positive or negative design load.
- 2. Structural design for wind load shall be engineered by others.

#### B. Moisture/air control

- 1. The exterior wall must be designed and installed to allow moisture to drain to the exterior per the International Building Codes.

2. Do not use vapor retarders on the interior side of the wall. Using vapor retarders on the exterior is the decision of the designer.
3. Design flashing to direct water to the exterior, including above window and door heads, window, and door sills, at roof/wall intersections, decks, floor lines, high to low wall intersections, at the base of the wall, and where required by code and in the project details.

**C. Fire Rated Assemblies / Non-combustible Assembly**

1. Ensure that the assembly complies with an associated UL assembly, Fire-rated assembly, Non-combustible, NFPA 285 tested or listed in the code compliance report.

**NOTE TO SPECIFIER:** It is not the responsibility of the contractor to determine the placement of control and expansion joints or their design. The project designer must determine the placement and size of all joints.

ASTM C1063 requires that the lath be discontinuous behind joints, however it is common practice to run the lath continuous and is allowed by FacadesXi with the approval of the building code official and the designer. If this desired by the designer, then this section should be modified and the framing must be designed to accommodate this.

**D. System Joints**

1. Locate control joints on the vertical wall every 144 square feet minimum with a maximum length or width of 18 lineal ft. and a maximum length to width ratio of 2.5:1
2. Plaster base may be continuous (with the approval of the designer and the building code official) or discontinuous at locations of control joints. If the plaster base is to be discontinuous, additional framing must be provided so that the plaster base may be securely fastened to a framing member at both sides of the control joint, and the control joints wire tied to the plaster base.
3. For a continuous plaster base, the control joint shall be installed over the plaster base and wire tied to it. Vertical control joints shall be continuous, with horizontal control joints abutting them and set in a bead of sealant.
4. Two Piece Expansion joints are required at building expansion joints, at floor lines, where dissimilar materials meet, or in other areas where movement in the structure is anticipated. Sheathing must not span these breaks in construction.
5. The placement of the control joints, expansion joints, is not the responsibility of the contractor. Designer to show placement on the project drawings.
6. Where the thin veneer adheres to a masonry or concrete substrate, the movement joints through the veneer should be installed directly over and aligned with movement joints in the substrate.
7. Tile Movement Joints: Per TCNA EJ171

**E. Assembly installation**

1. Not to be used below grade or on walls with negative water pressure.
2. On framed walls, terminate a minimum of 4 inches (100 mm) above earth grade, a minimum of 2 inches (51 mm) above finished grade, or not less than 1/2 inch above exterior walking surfaces that are supported by the same foundation that supports the exterior wall.
3. For use on vertical walls only.

**1.6 QUALITY ASSURANCE**

**A. Manufacturer**

1. Stucco products have been installed for over 20 years on over 10 million square feet.

**B. Applicator**

1. Listed by FACADESXi Wall Systems. Licensed, insured, and engaged in the application of stucco and masonry veneer for a minimum of 3 years.
2. Employ mechanics who are skilled and experienced in Coatings applications and knowledgeable in the FACADESXi Coatings and masonry veneer installation.

**C. Conform to all applicable building code requirements.**

- D. Construct one sample panel<SIZE> in the field for each color and texture, using the same methods to be used in the actual construction. Maintain on job site.
- E. Third-party inspection where required by code or contract documents are to be contacted by the owner. Inspections are not performed by the coating's manufacturer.

## 1.7 PERFORMANCE CRITERIA

- A. **Masonry Veneer Mortar**
  1. Compressive strength of Masonry Veneer Mortar, ASTM C109
  2. Slip-on on Wall, ISO 13007-2,2005, 4.2
  3. Shear Strength, ANSI 118.15
  4. Shear Bond of Stone Veneer, ASTM C 482
  5. Shear Bond of Stone Veneer to cement board, ASTM C 482
  6. Shear Bond of manufactured Stone Veneer to FacadesOne Stucco, ASTM C 482
  7. Shear Bond of Natural Stone Veneer to FacadesOne Stucco, ASTM C 482
  8. Shear Bond of thin brick veneer to FacadesOne Stucco, ASTM C 482

## 1.8 DELIVERY/STORAGE/HANDLING

- A. Deliver, store, and handle products per product data and under Section [ ]
- B. Deliver FACADESXi materials in original unopened packages with labels intact.
- C. Protect FACADESXi materials during transportation and installation to avoid physical damage.
- D. Protect Portland cement-based material (bag products) from moisture and humidity. Store undercover and off the ground in a dry location.
- E. Store FACADESXi materials in a cool, dry place, out of direct sunlight, and protected from freezing.
- F. Store insulation boards in original packaging, flat and out of the heat and direct sunlight.

## 1.9 PROJECT CONDITIONS

- A. Ambient and surface temperature must be above 40 degrees F during application and for 24 hours after application of FACADESXi materials.
- B. Provide supplementary heat /shading for installation, if necessary, to maintain a minimum or maximum allowable temperatures.
- C. Do not install coatings in temperatures above 100 F.
- D. Protect surrounding areas and adjacent surfaces from the application of materials.

## 1.10 COORDINATION AND SCHEDULING

- A. Interior drywall, all floor, roof construction, and other work that imposes dead loads on the walls should be completed before the cladding to prevent excessive deflection and help prevent cracking.
- B. Coordinate and schedule installation of FACADESXi with related work; windows, doors, flashing, AC units, foundation waterproofing, roofing, trim, flashing, and joint sealers; to prevent water infiltration behind and the drainage of the system.
- C. Protect sheathing per industry and/or sheathing manufacturer's instructions.
- D. Install sealant immediately after the base coat has dried. Do not install sealant to finish coat.
- E. Attach penetrations through the stucco per FACADESXi Details.

## 1.11 WARRANTY

- A. Provide FACADESXi limited material warranty under project provisions. This Assembly is warranted for materials only of the FACADESXi Stucco base coat and Masonry Veneer Mortar. For a full Assembly Warranty - See Masonry Veneer WaterShield Assembly.
- B. See Facade Warranty Technical Document for specific warranties available.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

FACADESXi, 15262 Capital Port, San Antonio TX 78249 | 1.833. 833-899-0787 | [www.FACADESXi.com](http://www.FACADESXi.com)

### 2.2 SYSTEM/MATERIALS

- A. **WaterShield Masonry Veneer Wall Assembly: Xi-WaterShield Water/Air Barrier and accessories, drainage mat, code-compliant lath, mortar bed at minimum ½", FacadesXi Masonry Veneer Mortar, and Adhered Veneer.**
- B. **Materials**
1. WaterShield Assembly
    - a. WaterShield – Liquid applied air/ water barrier
    - b. WaterShield Joint Mesh– Reinforcement for Watershield over joints and gaps
    - c. WaterShield Flashing Tape: Primer-Free peel and stick tape designed for use with stucco and EIFS systems. The polyester fabric top layer provides an excellent bonding surface for cementitious and synthetic stucco coatings.
    - d. Xi-FlashFill: Gunnable or Trowelable waterproofing Sealant applied at 12 mils.
  2. Drainage:
    - a. Drainage Mat: Three-dimensional mat laminated to a non-woven lightweight, breathable fabric to provide a separation from the stucco base coat
    - b. Polyolephin building paper with drainage or equal
  3. Lath (by others) (Select One)
    - a. [Expanded metal lath Minimum 2.5 lb/yd<sup>2</sup> (1.4 kg/m<sup>2</sup>), meeting ASTM C847 Specification for Metal Lath. Furring crimps shall be provided at maximum 6-inch (152mm) intervals each way and shall fur the body of the lath a minimum of 1/4-inch (6.4mm) from the substrate after installation.]
    - b. When the base coat thickness is 1/2-inches (12.7 mm) thick or less, the body of the metal plaster base shall be furred a nominal of 1/8-inch (3.2 mm) from the substrate
    - c. Lath Fasteners per ASTM C1063
  4. Accessories
    - a. Lathing accessories in conformance with ASTM C1861 Specification for Lathing and Furring Accessories, and Fasteners, for Interior and Exterior Portland Cement-Based
    - b. PVC in compliance with ASTM D 1784.
    - c. Zinc in compliance with ASTM B69.
    - d. Galvanized metal in compliance with ASTM A653 with G60 coating.
  5. Mortar Bed (Min. ½" Thick)
    - a. FacadesThree or FacadesOne Concentrate/Xi-Admix and Bonding Agent (required): Scratch and Brown portland cement stucco base coat, mixed with water, admix and sand in the field.
    - b. FacadesThree or FacadesOne Sanded/ Xi-Admix and Bonding Agent: Pre Sanded Scratch and Brown portland cement stucco base coat mixed with water and admix in the field.
    - c. Sand: ASTM C 897 or ASTM C 144, per ASTM C926
    - d. Water: Clean and potable.
  6. Xi-Admix and Bonding Agent – Required admix in the Mortar Bed.

7. Xi-Masonry Veneer Mortar: Polymer modified Adhered Veneer Mortar mixed with Water in the field.

Adhered Veneers are not to exceed 36 inches in any face dimension, 5 square feet in total face areas, 2-5/8 inches thick or 15 pounds per square foot.

8. Adhered Veneers (by others)
  - a. [Manufactured Stone Veneer: Having a current Evaluation Report showing compliance to the code or complying with ASTM C1670]
  - b. [Thin Brick Veneer: Complying with ASTM C1088, Standard Specification for thin veneer Brick Units made from Clay or Shale]
  - c. Tile: Shall comply with the requirements of the TCNA/ASNI A137.1 Standard for Ceramic Tile.
  - d. [Natural Stone Veneer; Contact Stone manufacturer for acceptance in this specific installation.]
    - 1) Veneer:
    - 2) Size:
    - 3) Color:
    - 4) Finish:
9. Grout: Complies with ASTM C270 Type N or Type S or Preblended ASTM C1714/C1714M Type N or Type S

## PART 3 - INSTALLATION/EXECUTION

### 3.1 EXAMINATION

- A. **Verify the following:**
  1. Substrate is allowable and code compliant.
  2. Surfaces must be free of mildew, dirt, efflorescent, oils, damage deterioration, or any foreign materials.
  3. Openings, roofs, and terminations have been properly flashed.
- B. **Substrate – Fire Rated wall should be per the assembly - Choose one**  
[½" minimum Exterior Glass mat gypsum Sheathing complying with ASTM C1177]  
[½" minimum Exterior fiber reinforced cement sheathing complying with ASTM C1325]  
[½" minimum APA Exposure 1 or exterior plywood (Grade C/D or better)]  
[½" minimum APA Exposure I OSB]  
[Other substrate, or Painted as approved by Facades XI]
- C. **Unsatisfactory conditions shall be corrected before the installation of any FACADESXi System materials. The contractor must notify the general contractor and/or owner and/or architect of all discrepancies. Do not proceed with the water/air barrier until conditions are resolved.**

### 3.2 PREPARATION

- A. **Framing, Sheathing, Substrate**
  1. Framing and Sheathing must be installed per the applicable manufacturer/industry standards.
- B. **Flashing**
  1. Head, jamb, and sills of all openings must be flashed in conjunction with the water/air barrier per project details to create positive drainage.
  2. Roof Flashing and Kick out Flashing must be installed per project design.
  3. Install copings and sealants after assembly has been installed and is completely dry.
  4. Do not proceed until all unsatisfactory conditions have been corrected.



### 3.3 APPLICATION

#### A. Mixing

1. Mix each product per the most current product datasheet.
2. No additives are permitted to any components unless specifically approved by FXI.
3. Mix Xi-Admix and Bonding Agent into the FacadesXi Stucco Base per the product datasheet.

#### B. Air/Water Barrier

1. Coordinate installation with all flashing, terminations, roofing, accessories, windows, and other adjacent water barrier materials to provide an air/watertight assembly.
2. Install WaterShield and WaterShield accessory products per the WaterShield Product datasheet and system details.
3. Treat all gaps, joints, corners, and dissimilar transitions with the appropriate Joint Treatments to ensure a water and airtight assembly.
4. After flashings, window fins, and penetrations are installed, install WaterShield transition treatment per project details to create a waterproof connection and positive drainage.
5. WaterShield Field Application: Install per the WaterShield Product datasheet and system details.
6. The wet mil will be approximately 10-12 wet mils.
  - a. OSB/Plywood: Plywood/OSB surface may create imperfections in the WaterShield. The WaterShield must be re-applied in any areas that are not completely covered.
  - b. CMU: CMU will require more Xi- WaterShield than other substrates or it may be skimmed out with Xi-Base or Xi-VersaBase.
  - c. Some substrates may require 2 coats: When applying 2 coats, allow the first coat to fully dry. It may require back rolling with a ¾" nap roller for complete coverage without pinholes.
7. Transition between Water Resistive Barriers:
  - a. When there is a transition between WaterShield and Non-FacadesXi materials, consult FacadesXi Technical Services. The adhesion between products is not always known and testing may be necessary.

Stucco materials should not be installed directly over water barrier coatings and a slip sheet should be installed to prevent adhesion of the stucco to the Air/Water Barrier Coatings which can cause stucco cracking.

#### C. Means of Drainage

1. Temporarily install Water Resistive Barrier with integral drainage or drainage mat with fabric side out with as few fasteners as possible. The Lath fasteners will permanently hold in place.

The placement and design of control and expansion joints must be per the project designer.

#### D. Accessories /Lath

1. Install Weep Screed per ASTM C1063, a corrosion-resistant screed or flashing of a minimum 0.019-inch (0.48 mm) or 26 gage galvanized or plastic with a minimum vertical attachment flange of 3-1/2 inches (89 mm) shall be installed to extend not less than 1 inch (25 mm) below the foundation plate line on exterior stud walls per International Building Code Section 1404.4. The water-resistive barrier shall lap over the exterior of the attachment flange of the screed or flashing.
2. On exterior stud walls, adhered masonry veneer shall be installed no less than 4 inches (102 mm) above the earth, or no less than 2 inches (51 mm) above paved areas, or no less than 1/2 inch (12.7 mm) above exterior walking surfaces that are supported by the same foundation that supports the exterior wall.
3. Install Control joints and Expansion joints per ASTM C1063, and per the architect's design.
4. Install Lath per ASTM C1063.

#### **E. Mortar Bed**

1. Apply stucco with sufficient pressure to key into and embed the metal lath at a nominal 1/2-inch-thick (12.7 mm).
2. After application of the portland cement plaster base coat/brown coat, rod, darby, or trowel it to produce the level desired.
3. Moist cure 48 hours. Moist curing will reduce cracking and increase hydration.
4. If installing in 2 passes, install per FacadesXi Base coat product datasheet and Moist cure for 48 hours after each coat.

#### **F. Masonry Veneer Mortar/ Adhered Veneer**

1. Apply a thin layer of Masonry Veneer Mortar onto the substrate, approximately 1/8" thick. Only install material that will be covered within 15 minutes.
2. Also, apply a layer of Xi-Masonry Veneer Mortar using the appropriate notched trowel onto the backside of the stone, tile, or brick.
3. Press the veneer into the wet mortar on the wall and slide it into its desired location, sliding back and forth to set the veneer.
4. **The end result should be 100% coverage between the substrate and the veneer unit.**
5. Every 100 sf check the adhesion and coverage of a sample veneer.
6. There should be some mortar that squeezes out during installation to show full coverage. Clean excess mortar out between veneers.
7. Do not grout until it can be done without moving the veneer units.
8. Any veneers that are disturbed before completely setting should be removed, mortar removed from the wall and the veneer and then reinstalled. Protect them from rain and freezing, until cured at least 24 hours, longer in cold or humid climates before application of primer/finish coat

#### **G. Grout/Pointing Mortar**

1. Allow the veneer to set a minimum of 24 hours before grouting.

### **3.3 QUALITY CONTROL**

- A. **The contractor is responsible for the proper application of the FACADESXi products.**
- B. **FacadesXi is not responsible for on-site inspections. If inspections are required, the owner must engage a third-party inspector.**

### **3.5 CLEANING**

- A. **Clean under the provisions of Section [01 74 00]**
- B. **All excess materials must be removed from the project site per the project Provisions**
- C. **Clean adjacent surfaces of excess materials or debris.**

### **3.6 PROTECTION**

- A. **Protect installed materials under provisions of Section [01 74 00]**

## **END OF SECTION**

Disclaimer prepared in good faith based on the information available at the time of publication.

All information contained in this specification conforms to standard detail and product recommendations for the installation of FACADESXi products and should be used for guidance only. There may be additional information and/or equivalent means of installation that are not referenced in FACADESXi's specifications. All FACADESXi products shall be installed per FACADESXi product datasheets and all applicable building codes and industry-standard practices.

The design, engineering, and final details incorporating any FACADESXi product are the sole responsibility of the project design professional. FACADESXi is not responsible for determining the acceptability and/or applicability of any FACADESXi product for any specific project or condition. FACADESXi disclaims all liability for improper installation, workmanship, or design by a third party. EXCEPT FOR ANY EXPRESS REPRESENTATIONS AND WARRANTIES BY FACADESXi, ALL IMPLIED WARRANTIES OF ANY KIND, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COMPLIANCE WITH LAWS OR GOVERNMENT RULES OR REGULATIONS APPLICABLE TO THE PROJECT, ARE HEREBY DISCLAIMED.

FACADESXi's website should always be consulted for the latest version of any details, specifications, and/or product information. Contact FACADESXi for any technical assistance.

# **FACADESXi**

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